MYCOTAXON

Volume 112, pp. 257–260 *April–June 2010*

Lylea indica: a new hyphomycete species from India

Kedar G. Karandikar[1] & Sanjay K. Singh [2*]

singhsksingh@rediffmail.com
[2] National Facility for Culture Collection of Fungi
MACS' Agharkar Research Institute, G.G. Agarkar Road, Pune–411004

kedar_karandikar@yahoo.com
[1] Department of Botany, K.M.C. College, Khopoli, Dist. Raigad – 410 203

Abstract — A new hyphomycete species, *Lylea indica*, from Nagzira, Vidharba region of Maharashtra state in India found on dead culms of *Bambusa arundinacea* is here described.

Key words — fungal diversity, anamorphic fungus, taxonomy

Introduction

Morgan-Jones (1975) established *Lylea* (type species *L. catenulata* Morgan-Jones) on twigs of *Pinus taeda* L. collected in Auburn, Alabama. Four species have been described in the genus (Morgan-Jones 1975, Mercado et al. 1977, Chang 1999, McKenzie 2009). A fifth *Lylea* species has been found among fungi collected from forests of Vidarbha region in Maharashtra state. The new species is illustrated and described below.

Materials & methods

A Nikon Stereozoom microscope (Model SMZ-1500 with Digi-CAM) was used to study patterns of colonies growing on herbarium specimens. Semi-permanent microscopic slides were prepared by making scrape mounts from the specimens. Specimens were mounted in lactophenol-cotton blue for micrometric details using an Olympus CX-41. Measurements of fungal structures were taken with a calibrated ocular micrometer. Illustrations were prepared using camera lucida. Holotype material is deposited in Ajrekar Mycological Herbarium (AMH), MACS' Agharkar Research Institute, Pune, India (AMH, according to Holmgren et al. 1990).

Attempts to culture the described species on V-8 Juice Agar and Potato Dextrose Agar (Tuite 1969) were unsuccessful.

*Author for correspondence

Taxonomic description

Lylea indica K.G. Karand. & S.K. Singh, **sp. nov.** FIGS 1–4

MYCOBANK MB 515199

Lylea catenulata *similis sed conidiophoris macronematis et conidiis in catenis simplicibus.*

HOLOTYPE — on dead culms of *Bambusa arundinacea* Willd. *(Poaceae)*, India, Nagzira, Vidarbha, Maharashtra, 21.12.1983, *K.G. Karandikar*, 6632: AMH.

ETYMOLOGY — *indica* refers to the country of origin.

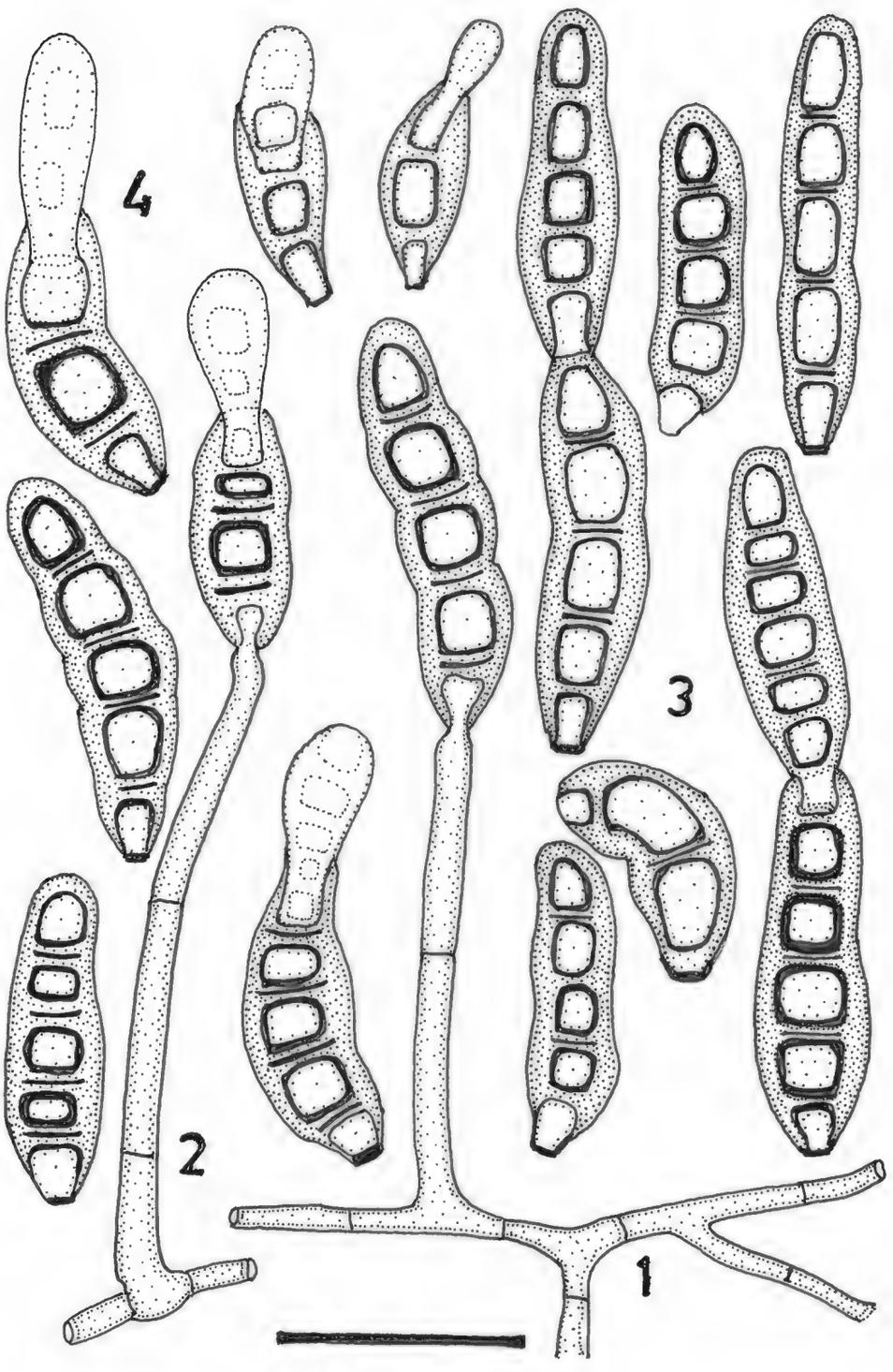
COLONIES effuse. *Mycelium* brown partly superficial. HYPHAE branched, septate, pale brown, 1.5–2.0 µm wide. CONIDIOPHORES determinate, macronematous, mononematous, simple, cylindrical, straight or flexuous, unbranched, pale-brown, 1–4 septate, smooth, 24–65 × 1.5–2.0(–3.5) µm. CONIDIOGENOUS CELLS integrated, terminal, determinate, monoblastic and terminal cells of conidia, forming short, acropetal chains. The growth of conidiophores ceases with the formation of the conidium at its apex. The successive conidia then develop on the terminal cell of previously formed conidium. CONIDIA acrogenous, singly short catenate, mid brown to brown, smooth, cylindrical to fusiform, 3–7 pseudoseptate, 10–35.5(–21) × 5.5–11.5(–8.5) µm with thick black, conspicuous lamellae and with constrictions at septa or shows wavy margin.

COMMENT—*Lylea indica* shows affinity with *L. catenulata* in having pseudoseptate conidia with lamellae that develop in short, acropetal chains. However, *L. indica* produces macronematous conidiophores and conidia that always form unbranched chains resulting from the conidia successively developing from the terminal cell of an earlier conidium in the chain; conidia never arise from intercalary cells of a conidium as is found in *L. catenulata.* In addition, conidia in *L. indica* are considerably shorter (10–35.5 µm) than those of *L. catenulata* (40–67(–120) µm).

The new *Lylea* species differs from the other members of the genus [e.g., *L. tetracoila* (Corda) Hol.-Jech. (Holubová-Jechová 1978), *L. palmicola* Mercado et al. (Mercado et al. 1997)] in producing up to seven pseudoseptate conidia compared to 2–4 in (*L. tetracoila*) and 0–4 (*L. palmicola*). *Lylea indica* differs from *L. rhopalostylidis* McKenzie (McKenzie 2009) in producing significantly smaller conidia and conidiophores as well as having conidia with thick black conspicuous lamellae all along the mature conidial inner cell walls.

Acknowledgements

We are indebted to Dr. Lei Cai, Novozymes China and Dr. José C. Dianese, Departamento de Fitopatologia, Universidade de Brasília, Brasília, DF, Brazil for kindly reviewing the manuscript and Director, Agharkar Research Institute (ARI), Pune for providing facilities. S.K. Singh thanks the Department of Science and Technology (DST), Government of India, New Delhi for providing financial support for setting up



FIGS.1–4. *Lylea indica*
1. Vegetative mycelium connected to a conidiophore with a terminal conidium.
2. Conidiophore bearing an apically germinated conidium.3. Conidial chain
4. Apically proliferating conidia. Scale bar = 20µm.

'National Facility for Culture Collection of Fungi' (No.SP/SO/PS-55/2005) at ARI. K.G. Karandikar thanks late Dr. P.G. Patwardhan for his incredible guidance and Principal K.M.C. College Khopoli for the support.

Literature cited

Chang HS. 1999. Three dematiaceous hyphomycetes from Taiwan. Bot. Bull. Acad. Sin. 40: 247–250.

Holmgren PK, Holmgren NH, Barnett LC. 1990. Index Herbariorum: part I: The herbaria of the world. 8th ed. Bronx, NY Botanical Garden.

Holubová-Jechová V. 1978. Lignicolous hyphomycetes from Czechoslovakia. 5: *Septonema*, *Homiactella* and *Lylea*. Folia Geobot. Phytotax. 13: 421–442.

McKenzie EHC. 2009. A new species of *Lylea* (hyphomycetes) on *Rhopalostylis* (*Arecaceae*) in New Zealand. Mycotaxon 109: 39–42.

Mercado-Sierra Á, Figueras MJ, Gené J. 1997. New or rare hyphomycetes from Cuba VIII. Species of *Lylea, Phaeoisaria, Arxiella, Graphium, Periconia* and *Ramichloridium*. Mycotaxon 63: 369–375.

Morgan-Jones G. 1975. Notes on hyphomycetes. VIII. *Lylea*, a new genus. Mycotaxon 3: 129–132.

Tuite J. 1969. Plant pathological methods in fungi and bacteria. Burgese Publishing Company, Minneapolis.